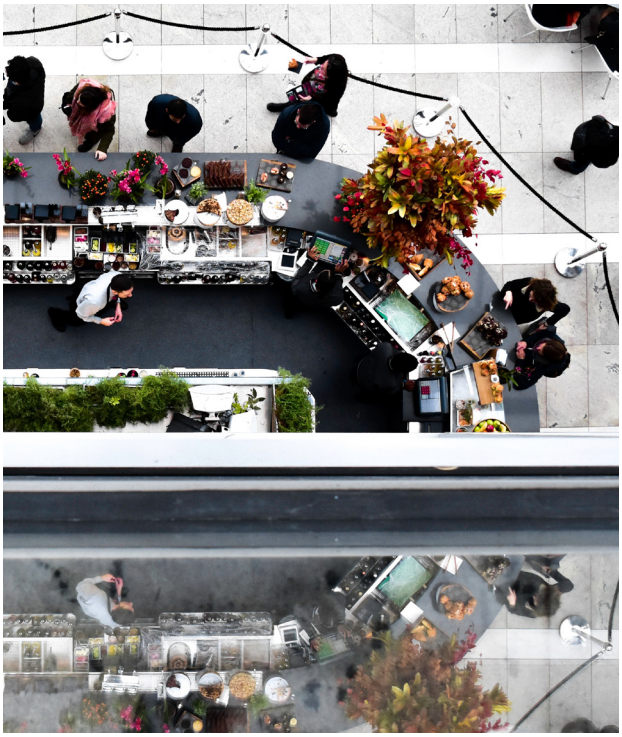
Case Study | Austec

Austec decreases energy costs by 12.6% at the Hyperdome Shopping Centre



The Customer

Portfolio Overview
Leading open technology provider of BACnet Building Management Systems
Largest ongoing Reliable Controls Dealer in Australasia
Size: 500+ total buildings
Industries: Hospitals, military bases, universities, commercial high rise and all levels of government
Geography: Australia

Site Overview:
The Hyperdome Shopping Centre is one of the largest single-story shopping centers in Australia
81,000+ sq meters
Approximately 220 retail stores

The Opportunity

Enhance an existing BMS to reduce peak demand and energy consumption

Identifying opportunities to better monitor energy led Austec to seek out a holistic IoT solution to complement their existing systems. Austec selected a large, high-trafficked shopping center, the Hyperdome, for initial deployment of the Switch Platform.

Due to the Hyperdome's large single-story floorplan, the air-conditioning utilized cooling from seven separate chilled water plants spread across the center. Using multiple chiller plants in addition to nine separate power supply transformers (spread across four switch rooms) made load management especially difficult.

Most importantly, peak demand accounted for almost half of the total electricity costs for the site. To lower costs and energy usage, Austec needed a strategy to reduce peak demand while keeping the temperature comfortable for store owners and shoppers.

The Platform allowed Austec to fine-tune the BMS operation of the chiller plants and associated AHU to maximize efficiencies of all equipment.

The Solution: Performance Optimization

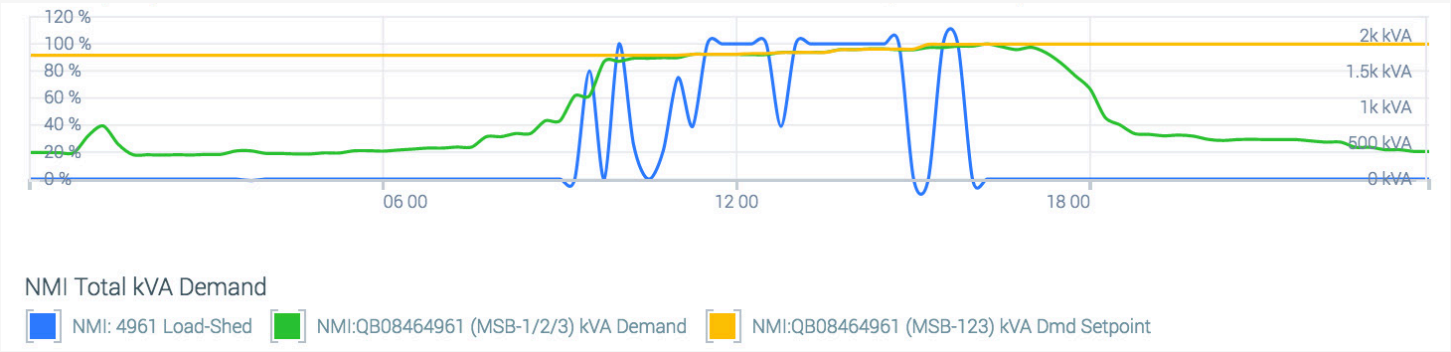
Reduce energy costs without sacrificing occupant comfort

Switch Performance Optimization translates detailed energy consumption stats from various data sources into a simple to use, intuitive interface. The ease of point configuration and adding a gateway to an existing BACnet network; flexibility in point-naming and tagging; and high-quality data visualizations made the Switch Platform an obvious choice for energy monitoring.

By providing deeper insights into energy usage and opportunities to save on cost and consumption, the Switch Platform empowers Austec to:

- Implement a peak demand strategy to automatically load shed field devices
- Identify opportunities to reduce energy and Opex while maintaining tenant comfort
- Optimize temperature and pressure setpoints
- Fine-tune the BMS operation of the chiller plants and associated AHU to maximize efficiencies of all equipment

BMS load-shed based on kVA demand



To ensure peak demand is maintained, the Platform monitors kVA demand and increases the BMS load-shed signal if it approaches the setpoint.

To ensure conditions are maintained at all times within the center, the demand-limiting strategy utilizes variable control to ensure no loads are switched off. This allows Austec to successfully reduce peak demand without affecting building conditions, minimizing complaints from tenants and customers. By converting the existing BMS to a BEMS (Building & Energy Management System) with the Switch Platform, Austec is now able to optimize control, occupant comfort and energy.

The Results

12.6% saved in annual energy costs

During the first year of using Performance Optimization, Austec identified energy cost savings of $337,516. This figure represents 12.6% of total energy costs for the Hyperdome Shopping Centre site.

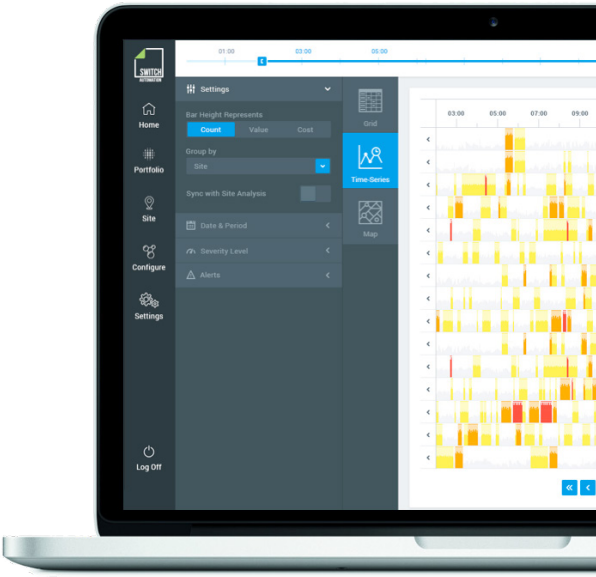
$337,516
Annual energy cost savings

1,220,884 kWh
Energy saved at the Hyperdome site alone

7.7%
Peak demand reduction

Austec can now say they deliver a true, comprehensive building optimization solution, which includes:

- ✓ Energy & sustainability management
- ✓ Installation of complete BACnet systems
- ✓ Ongoing maintenance of systems
- ✓ Supplying Reliable Controls products
- ✓ Energy efficient LED lighting solutions



> "The simplicity of integrating to an existing BACnet building management system made this an easy choice for Austec. The Switch Platform allowed us to evolve our BMS solution into a BEMS, by adding advanced analytics and visualizations, which are essential tools missing from a large majority of BMS installations."

Construction Manager,
Austec Building Automation

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